

CLAIMS

What is claimed is:

1. A combination of a semiconductor substrate singulation saw and a chuck for holding a substrate comprising:
a saw having at least one blade supported above a table and oriented to cut mutually parallel paths in the surface of a semiconductor substrate positioned on said table; and
a chuck having at least one cutting pedestal located thereon mounted on said table, said chuck for holding said substrate during cutting thereof by said saw.
2. The combination of claim 1, wherein said chuck further comprises:
a chuck table; and
a plurality of cutting pedestals, each cutting pedestal being mounted on said chuck table.
3. The combination of claim 2, wherein said chuck further comprises:
at least one clamp pedestal; and
at least one substrate clamp removably attached to a portion of the at least one clamp pedestal.
4. The combination of claim 3, wherein said chuck further comprises:
at least one alignment apparatus having a portion attached to the chuck table.
5. The combination of claim 4, wherein said alignment apparatus comprises:
at least one alignment pin having a portion for engaging a portion of the substrate.
6. The combination of claim 4, wherein said at least one alignment apparatus comprises:
an aperture in the chuck table for receiving said substrate therein.

7. The combination of claim 4, wherein said at least one alignment apparatus comprises:

a pair of alignment pins, each alignment pin having a portion thereof attached to the chuck table and a portion for engaging a portion of said substrate.

8. The combination of claim 1, the saw further comprising:
at least two blades for sawing said substrate.

9. The combination of claim 8, wherein at least one of said at least two blades is laterally translatable relative to another of said at least two blades.

10. The combination of claim 9, wherein said at least one of said at least two blades is raisable relative to another of said at least two blades.

11. The combination of claim 8, wherein said table is translatable in at least one direction relative to said at least two blades.

12. The combination of claim 8, wherein said at least two blades are translatable in at least one direction relative to said table.

13. A combination of a semiconductor substrate singulation saw and a table for mounting a substrate comprising:
a saw having at least two blades supported above a table and oriented to cut mutually parallel paths in a surface of a semiconductor substrate positioned on said table; and
a chuck having at least one cutting pedestal located thereon mounted on said table, said chuck for holding said substrate during cutting thereof by said saw.

14. The combination of claim 13, wherein said chuck further comprises:
a chuck table; and
a plurality of cutting pedestals, each cutting pedestal being mounted on said chuck table.

15. The combination of claim 14, wherein said chuck further comprises:
at least one clamp pedestal; and
at least one substrate clamp removably attached to a portion of the at least one clamp pedestal.

16. The combination of claim 15, wherein said chuck further comprises:
at least one alignment apparatus having a portion attached to the chuck table.

17. The combination of claim 16, wherein said at least one alignment apparatus
comprises:
at least one alignment pin having a portion for engaging a portion of the substrate.

18. The combination of claim 16, wherein said at least one alignment apparatus
comprises:
an aperture in the chuck table for receiving said substrate therein.

19. The combination of claim 16, wherein said at least one alignment apparatus
comprises:
a pair of alignment pins, each alignment pin having a portion thereof attached to the chuck table
and a portion for engaging a portion of said substrate.

20. The combination of claim 13, the saw further comprising:
at least two blades for sawing said substrate.

21. The combination of claim 20, wherein at least one of said at least two blades is
laterally translatable relative to another of said at least two blades.

22. The combination of claim 21, wherein said at least one of said at least two blades is raisable relative to another of said at least two blades.

23. The combination of claim 20, wherein said table is translatable in at least one direction relative to said at least two blades.

24. The combination of claim 20, wherein said at least two blades are translatable in at least one direction relative to said table.

25. A chuck used for semiconductor substrate singulation for holding a substrate to be singulated in a saw having a table comprising:
a chuck having at least one cutting pedestal located thereon mounted on said table, said chuck for holding said substrate during cutting thereof by said saw.

26. The chuck of claim 25, wherein said chuck further comprises:
a plurality of cutting pedestals, each cutting pedestal being mounted on said table.

27. The chuck of claim 26, wherein said chuck further comprises:
at least one clamp pedestal; and
at least one substrate clamp removably attached to a portion of the at least one clamp pedestal.

28. The chuck of claim 27, wherein said chuck further comprises:
at least one alignment apparatus having a portion attached to the chuck table.

29. The chuck of claim 28, wherein said at least one alignment apparatus comprises:
at least one alignment pin having a portion for engaging a portion of the substrate.

30. The chuck of claim 28, wherein said at least one alignment apparatus comprises:
an aperture in the chuck table for receiving said substrate therein.

31. The chuck of claim 28, wherein said at least one alignment apparatus comprises:
a pair of alignment pins, each alignment pin having a portion thereof attached to the chuck table
and a portion for engaging a portion of said substrate.